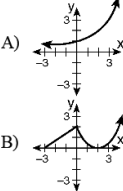
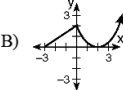
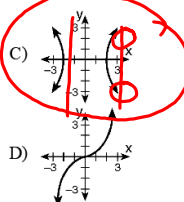
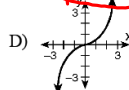


This review is NOT comprehensive. Make sure to study your notes and homework assignments as well!

- 1) Solve: $y^{\frac{2}{3}} = 64$
 A) ± 512 B) ± 16 C) 16 D) 512
- 2) Solve: $(w+1)^{\frac{3}{2}} = 64$
 A) 511 B) 17 C) 15 D) 21
- 3) Solve: $3y^{\frac{1}{3}} - 2 = 4$

- 4) Which of the following sets represents a function?
 A) $\{(-2,5), (4,1), (5,1), (0,-2)\}$ B) $\{(4,1), (6,2), (-4,3), (-5,2)\}$ C) $\{(x,y) | x+2 = y^2\}$ D) the set of real numbers
- 5) Which one of the following sets is *not* a function?
 A) $\{(1,2), (2,3), (3,4)\}$ B) $\{(1,1), (1,2), (1,3)\}$ C) $\{(1,1), (2,1), (3,1)\}$ D) $\{(1,1), (2,2), (3,3)\}$
- 6) Which graph does *not* represent a function?
- 
- 
- 
- 
- Handwritten notes: "No repeating x-values." (circled), "Not function" (written next to graph C), and a green sine wave graph.

1) $y^{\frac{2}{3}} = 64$
 $(\sqrt[3]{64})^2 = \pm 512$
 $y = \pm 512$

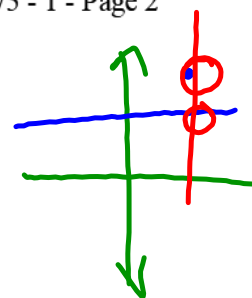
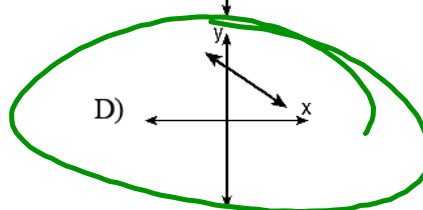
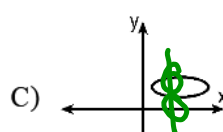
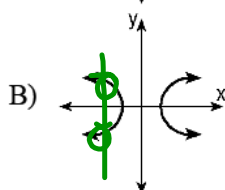
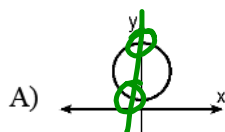
2) $(w+1)^{\frac{3}{2}} = 64$

$w+1 = 16$
 $-1 \quad -1$
 $w = 15$

3) $3y^{\frac{1}{3}} - 2 = 4$
 $+2 \quad +2$
 $3y^{\frac{1}{3}} = 6$
 $\frac{3}{3} \quad \frac{6}{3}$
 $y^{\frac{1}{3}} = 2$
 $y = 2^3$
 $y = 8$

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7) Which graph of a relation is also a function?



8) How many of the following relations are functions?

- $y = 5x - 3$
- $y = \sqrt{x + 5}$
- $y = \frac{1}{x - 2} + 7$
- $y = -2^x - 1$

Look at the graphs on calc.

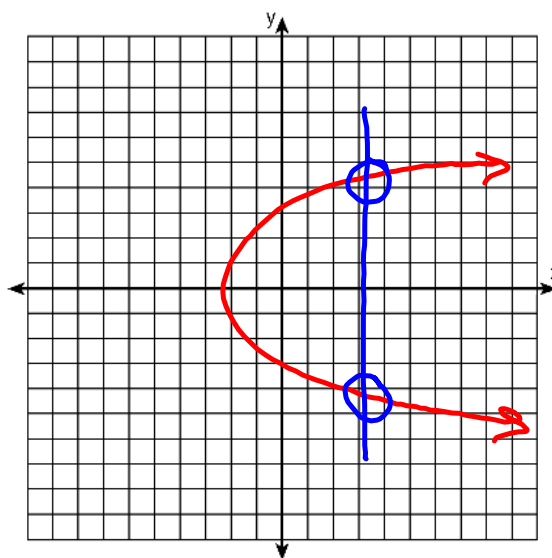
A) 1

B) 2

C) 3

D) 4

9) On the axes provided below, sketch a graph of a relation that is *not* a function.



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- 10) Write a definition for the term "function" and give an example.

One y for every x.

$$y = 6x + 2$$

$$y = x^2 + 3$$

- 11) If $f(x) = 4x^0 + (4x)^{-1}$, what is the value of $f(4)$?

A) $4\frac{1}{16}$

B) 0

C) -12

D) $1\frac{1}{16}$

- 12) If $f(x) = 3^x$, what is the value of $f(-2)$?

A) -6

B) $\frac{1}{9}$

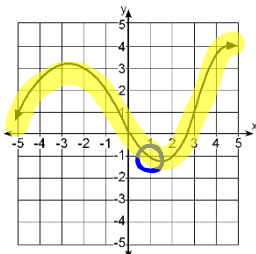
C) -9

D) 9

- 13) Given the graph below of $y = f(x)$.

$f(1)$ = what is
y when $x=1$

$$f(1) = -1$$



According to the graph shown, what is the value of $f(1)$?

A) 1

B) 2

C) -1

D) -2

- 14) Given the function $f(x) = 3x^2 - 4$, which of the following is true?

A) $f(0) = 0$

B) $f(5) + f(2) = f(7)$

C) $f(-2) = f(2)$

D) $f(5) \cdot f(2) = f(10)$

use
table
on
calc.

- 15) Given the function $f(x) = 2x + 5$, find the value of $f(a + 1)$.

$$11) f(x) = 4x^0 + (4x)^{-1}$$

$$f(4) = 4(4)^0 + (4(4))^{-1}$$

$$= 4(1) + (16)^{-1}$$

$$= 4 + \frac{1}{16}$$

$$= 4\frac{1}{16} = \frac{65}{16}$$

$$2^{-1} = \frac{1}{2}$$

$$\frac{1}{2^{-1}} = 2$$

$$12) f(x) = 3^x$$

$$f(-2) = 3^{-2}$$

$$= \left(\frac{1}{3}\right)^2$$

$$= \frac{1}{9}$$

$$15) f(x) = 2x + 5$$

$$f(a+1) = 2(a+1) + 5$$

$$= 2a + 2 + 5$$

$$f(a+1) = 2a + 7$$

16) For the given function, find the following values:

(a) $f(-2)$

(b) $f(0)$

(c) $f\left(\frac{1}{2}\right)$

(d) $f(5)$

(e) $f(a)$

(f) $f\left(\frac{1}{x}\right)$

(g) $f(-x)$

$f(x) = (x - 3)^2$

a) $f(-2) = (-2 - 3)^2 = (-5)^2 = 25$

b) $f(0) = (0 - 3)^2 = (-3)^2 = 9$

c) $f\left(\frac{1}{2}\right) = \left(\frac{1}{2} - 3\right)^2 = \left(-\frac{5}{2}\right)^2 = \frac{25}{4}$

d) $f(5) = (5 - 3)^2 = (2)^2 = 4$

e) $f(a) = (a - 3)^2 = (a - 3)(a - 3) = a^2 - 3a - 3a + 9 = a^2 - 6a + 9$

f) $f\left(\frac{1}{x}\right) = \left(\frac{1}{x} - 3\right)^2 = \left(\frac{1}{x} - 3\right)\left(\frac{1}{x} - 3\right) = \frac{1}{x^2} - \frac{3}{x} - \frac{3}{x} + 9 = \frac{1}{x^2} - \frac{6}{x} + 9$

g) $f(-x) = (-x - 3)^2 = (-x - 3)(-x - 3) = x^2 + 3x + 3x + 9 = x^2 + 6x + 9$